UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,377	03/31/2004	Frank Liebenow	P2006US00	5487

24333　7590　03/09/2007	EXAMINER	
GATEWAY, INC.	TSEGAYE, DANIEL	
ATTN: Patent Attorney		
610 GATEWAY DRIVE	ART UNIT	PAPER NUMBER
MAIL DROP Y-04	2609	
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SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

	Application No.	Applicant(s)
Office Action Summary	10/814,377	LIEBENOW, FRANK
	Examiner	Art Unit	
	DANIEL TSEGAYE	2609	

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>31 March 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-34</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-34</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>Mar 31 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>3/31/2004</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

DETAILED ACTION

Specification

1.   The title of the invention is not descriptive. A new title is required that is

clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or
> composition of matter, or any new and useful improvement thereof, may obtain a patent
> therefor, subject to the conditions and requirements of this title.

Claims 30-34 are rejected under 35 U.S.C. 101 because the claimed is

directed to non-statutory subject matter.

Claims 30   recites "a program comprising storage medium tangible

embodying program instruction". However, claim 30 neither includes any

computer hardware component(s), nor positively recites the cited software

program are that can be read by machine. Application's specification provided

the component implemented in software (see [0050]). As such claim s 30-34 are

directed toward software per se, which is non-functional descriptive and non-

statutory.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

4.   Claims 4,9-10,30-34 are rejected under 35 U.S.C. 112, second paragraph,

as being indefinite for failing to particularly point out and distinctly claim the

subject matter which applicant regards as the invention.

Claims 4 and 32 recite the limitation "the electrical current" in line 1 and 2

respectively. There is insufficient antecedent basis for this limitation in the claim.

Claims 9 and 33-34 recite the limitation "the current" in line 3 and 2,

respectively. There is insufficient antecedent basis for this limitation in the claim.

Claim 10 is recites the limitations "the current" in line 3 and "the inverse of

display state" in line 4. There is insufficient antecedent basis for these limitations

in the claim.

Claim 30 recites "a program comprising a storage medium". It is not clear

from the disclosure that the "program" in the claim is a physical element. so that it

can include a storage medium. The claimed "a storage medium is indefinite

because the "program" cannot be a physical element.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6.   Claims 1,2-3,5-6,8,11-14,16,18-21,23-25 and 30 are rejected under 35

U.S.C. 102(e) as being anticipated by Mikkelsen (U.S Pat# 6,559,820).

As to claim 1, Mikkelsen disclose a method for digitizing data, comprising:

setting an element (200) of an electronic ink display to one of a plurality of display states

(e.g. black or white, see col.6, lines 9-11, and lines 32-34);

modifying (the display state (black or white) of the element (200) by writing to the display with an external device (e.g. hand or stylus (340), see col.5, lines 54-58, and col.7, line 67);

and reading (e.g. leaves a charge trail that activate the display state of the element) the element to determine if the display state has been modified (see col. 5, lines 58-60).

As to claim 14, this claim differs from claim1 only in the limitation "bistable display element to one of predetermined states wherein the display state of the element persists in a power down or power off mode of the display after the element has been set" is additionally recited. Mikkelsen clearly teaches bistable (e.g. black or white states remains in one of two states until it disrupted, see col.6, lines 2-11) display element (200) to one of predetermined states (e.g. black or white states) wherein the display state of the element persists in a power down (e.g. potential reduced) or power off (e.g. potential set to zero) mode of the display after the element has been set (see col. 9, lines 39-47).

As to claim 30, this claim differs from claim14 only in the limitation " a program comprising a storage medium tangibly embodying program instructions for digitizing data written to an electronic ink display, the program instructions including instructions operable to cause at least one programmable processor" is recited. Mikkelsen teaches electronic paper can be used in a computer system display screen (see col.1, lines 52-53). Thus a computer system has a storage medium tangibly embodying program instruction and at least one programmable processor.

As to claim 2, Mikkelsen disclose the external device comprising a hand held charged device (340).

As to claim 3, Mikkelsen teaches reading (e.g. leaves a charge trail that activate the display state of the element) the element to determine if the display state has been modified (e.g. causing the rotating element to face one portion toward the surface, see col.5, lines 60-62) comprising detecting an electrical property (e.g. charge that can cause to activate or rotate the rotatable element, see col.5, lines 58-60) related to the display state of the element (black or white state, see col.6, lines 9-10 and lines 31-32).

As to claims 5 and 20, Mikkelsen teaches the electrical property comprises an impedance (see col. 11, line 46).

As to claims 6 and 21, Mikkelsen teaches the electrical property comprises a capacitance (see col.6, lines 39-40).

As to claim 8, Mikkelsen teaches the electrical property is detected (e.g. stylus moving across the display), at least in part, by application of a probe signal (e.g. charge, see col. 5, lines 36-39).

As to claim 11, Mikkelsen teaches the display state of the element (e.g. black or white state) is sustained in a power down (e.g. potential reduced) or power off (e.g. potential set to zero) mode of the electronic ink display after the element has been set (e.g. once the rotatable element set either to black state or white state remains in one of the two state, see col.9, lines 39-44).

As to claim 12, Mikkelsen teaches reading (e.g. leaves a charge trail that activate the display state of the element, see col.5, lines 58-60) the element (200) to determine if the display state has been modified (e.g. write on the display using fingers, see col. 5, lines 54-58) comprises referring to one or more models (e.g. change in voltage, see from col.7 line 67 to col.8 lines 1-2).

As to claims 13 and 18, Mikkelsen teaches reading the element to determine if the display state has been modified is performed using a grid (e.g. 350, see col.7, lines 18-20) that is also used in setting the element (e.g. black or white, see col.6, lines 9-11, and lines 32-34).

As to claim 16, Mikkelsen teaches determining whether the display state (e.g. black or white state) has been modified (e.g. write on the display using fingers, see col. 5, lines 54-58) by the external device (340).

As to claim 19, Mikkelsen teaches reading the element of the display to obtain a display state (black or white state, see col.6, lines 9-10 and lines 31-32) comprises probing to detect an electrical property of the element (see col.5, lines 59-62).

As to claim 23, Mikkelsen teaches the display state is determined, at least in part, by reference to a model (e.g. change in voltage, see col.7 line 67 and col.8 lines 1-2).

As to claim 24, Mikkelsen teaches the model accounts for variables comprising environmental variables (e.g. pressure such as touch of a finger or the force applied by the stylus, see col.5, lines 58-59, temperature (heat), due to rate of charge dissipation, see col.6 lines 49-50).

As to claim 25, Mikkelsen teaches the model accounts for variables comprising process variables (e.g. change in voltage supply, see col.8 lines 1-2, change from one display element to another display element that is from white to black, see col.4, lines 58-61).

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 15, 26 and 27-28 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Mikkelsen in view of Perrone (U.S Pat#6,603881).

As to claim 26, Mikkelsen discloses a system for digitizing data written to an

electronic ink display comprising:

means (electronic paper) for setting an element of the electronic ink display array (e.g.

pixel or sub pixel, see col.4, lines 36-38) to one of a plurality of predetermined display

states (e.g., black or white states, see col.6, lines 9-10 and lines 31-32) from display

data stored (written information see col. 5 lines 57-62) in memory;

means (340) for modifying the display state (e.g. write on the display using fingers, see

col. 5, lines 54-58) of the element by writing to the electronic ink display with an external

device; means (charge, see col.5, 59-62) for reading the element of the electronic

display array to determine the display state. Mikkelsen do not teaches means for writing

the display state read for the element to memory. Perrone teaches, means (30) for

writing the display state (e.g., recognition state) read for the element to memory (see

col.5, lines 15-19).

There for It would have been obvious to one of ordinary skill in the art at the time the invention was made to have added writing display state to memory as taught by Perrone to the electronic paper of Mikkelsen because recorded strokes in memory of Perrone can be stored and organized for recognition, and the corresponding recognition results can be accurately placed in the correct spatial context for subsequent display (see col.7, lines 6-15 of Perrone).

As to claim 27, this claim differs from claim 26 only in the limitations "common electrode and a grid of addressable electrode", " a display driver" and " detection circuit" is additionally recited. Mikkelsen teaches the array of display elements interposed between a common electrode (350)(see col.7, lines 57-60) and a grid of addressable electrode elements (330)(see col.7, lines 32-35). Perrone teaches that the output device (40) is a display device. It is clear that the display device (40) must have a display driver for driving the display; otherwise the display (40) cannot display image. Perrone also teaches that an identification and detection circuit (35) operatively connected to the electronic ink display to determine the display state of the at least one display element of the electronic ink display (see col.5, lines 8-12 and col.6, lines 23-33).

As to claim 15, Perrone teaches updating a display memory (31) with the display state (e.g. updating new recognition state depends on a strokes associated to new recognition result, see col.5, lines 13-19 and col.6 lines 30-37).

As to claim 28, Perrone teaches the identification and detection circuit (35) as previously discussed with respect to claim 27 above

9.   Claims 4,7,9,10,17,22 and 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mikkelsen in view of Jacobson.

As to claim 4, note the discussion of Mikkelsen above. Mikkelsen does not teach measuring the electrical current. Jacobson teaches reading the element to determine if the display state has been modified (e.g., electrical signal addressing the electrodes, see [0037]) comprising measuring the electrical current required to reset the element to a predetermined display state (e.g., dark or light display state, see [0036]; [0037], [0042]; [0044] and [0048]).

Therefore, it would have obvious to one of ordinary skill in the art at time the invention was made to have provided reading the element to determine if the display state has been modified comprises measuring the electrical current required to reset the element to a predetermined display state as taught by Jacobson to electrophoretic display of Mikkelsen it would provide the benefit of decaying the image quickly once the addressing voltage to the display is removed, thereby the update image can be viewed in sufficient time (see [0006] of Jacobson).

As to claim 7, Jacobson teaches the electrical property comprises an electrical current (see [0037]).

As to claim 9, Jacobson teaches wherein reading the element to determine if the display state has been modified (e.g., electrical signal addressing the electrodes, see [0037]) comprises measuring the current required to reset the element to a display state stored for the element in memory (see [0039]).

As to claim 10, Jacobson teaches reading the element to determine if the display state has been modified (e.g., electrical signal addressing the electrodes, see [0037]) comprises measuring the current required to set the element to a display state (see [0048]) that represents the inverse of a display state (e.g., dark state see [0044]) stored

for the element in a memory followed by resetting the element to a display state (e.g., light state, see [0044]) stored for the element in the memory (e.g., ROM or PROM, see [0039]).

As to claim 17,Jacobson teaches reading the element of the display to obtain a display state comprises resetting the element to a predetermined reset state (e.g. dark or light, see [0044]), and measuring the current required to perform the reset operation (see [0048] (see [0036]; [0037] and [0042]; [0048]).

As to claim 22, Jacobson teaches the electrical property is determined, at least in part, by application of a small signal alternating current to the display element (e.g., applying alternating current to the pixels, see [0070]).

As to claim 31, note the discussion of Mikkelsen and Perrone above, Mikkelsen and Perrone do not teach read operation comprises detecting an electrical property related to the display element (e.g., the circuitry for sensing the state of individual display element, see [0036]). Jacobson teaches read operation comprises detecting an electrical property related to the display element (e.g., plurality of pixels)(see [0070]).

As to claim 32, Jacobson teaches the read operation comprises measuring the electrical current required to reset the element to a predetermined display state (e.g. dark or light, see [0044]) (see [0036]; [0037] and [0042]; [0048]).

As to claim 33, Jacobson teaches the read operation comprises measuring the current required to reset the element to a display state (e.g., electrical characteristic is compared to determined the state so it can be reset or manipulate, see [0042]) stored for the element in memory (see [0039]).

As to claim 34, Jacobson teaches the read operation comprises measuring the current required to set the element to a display state (see [0048]) that represents the inverse of a display state (e.g., dark state see [0044]) stored for the element in memory followed by resetting the element to the display state (e.g., light state, see [0044]) stored for the element in the memory (e.g., ROM or PROM, see [0039]).

10.   Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mikkelsen in view of Perrone as applied to claim 27 above, and further in view of Jacobson.

As to claim 29, note the discussion of Mikkelsen and Perrone above. Mikkelsen and Perrone do not teach a circuit to measure an electrical current. Jacobson teaches the identification and detection circuit (930) for measuring an electrical current required to perform one or more set operation by the display device (see [0070]).

Therefore, it would have obvious to one of ordinary skill in the art at time the invention was made to have provided the measure electrical current circuit as taught by Jacobson to the electric paper display of Mikkelsen as modified by Perrone because it would provide the benefit of decaying the image quickly once the addressing voltage to the display is removed, thereby the update image can be viewed in sufficient time (see [0006] of Jacobson).

Conclusion

11.   The prior art made or record and not relied upon is considered pertinent to applicant's disclosure.

Sheridon (U.S Pat# 5,389,945) and Crowley (U.S Pat# 5,825,529) are cited to teach sensing the state of electrophoretic display.

Inquiries

12.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL TSEGAYE whose telephone number is 571 270-1715. The examiner can normally be reached on Monday-Friday, 8:005:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, CHANH NGUYEN can be reached on 571 272 7772. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Daniel Tsegaye
02/27/2007

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